

APPROVED	O.G. FIG.	CLASS	SUBCLASS
BY DRAFTSMAN			

Gag_AF110965_BW_mod

ATGGGCGCCCGGCCAGCATCTGCGCGGGCAAGCTGGACGCCCTGGAGCGCATCCGCC
TCCGCCCCGGCGGCAAGAAGTGTACATGATGAAGCACCTGGTGTGGGCCAGCCGAGCT
GGAGAAGTTCGCCCTGAACCCGGCCTGCTGGAGACCAGCGAGGGCTGCAAGCAGATCATC
CGCCAGCTGCACCCGCCCTGCAGACCGGCAGCGAGGAGCTGAAGAGCCTGTTAACACCG
TGGCCACCCCTGACTGCGTGCACGAGAAGATCGAGGTCCGCACCCAAGGAGGCCCTGGA
CAAGATCGAGGAGGAGCAGAACAAAGTGCCAGCAGAACGATCCAGCAGGCCAGGCCGAC
AAGGGCAAGGTGAGCCAGAACTACCCATCGTGCAGAACCTGCAGGGCAGATGGTGCACC
AGGCCATCAGCCCCCGCACCTGAACGCCCTGGTGAAGGTGATCGAGGAGAACGCCCTCAG
CCCCGAGGTGATCCCCATGTTCACGCCCTGAGCGAGGGGCCACCCCCCAGGACCTGAAC
ACGATGTTGAACACCGTGGCGGCCACCAGGCCCATGCAAGATGCTGAAGGACACCATCA
ACGAGGAGGCCCGCAGTGGGACCGCGTGCACCCCGTGCACGCCGCCCATGCCCGG
CCAGATGCGAGCCCCCGCAGCAGCACATGCCGCCACCACAGCACCTGCAGGAGCAG
ATCGCCTGGATGACCAGCAACCCCCCATCCCCGGGACATCTACAAGCGGTGGATCA
TCCCTGGGCTGAACAAGATCGTGGGATGTACAGCCCCGTGAGCATCCTGGACATCAAGCA
GGGCCCCAAGGAGCCCCCTCCGCGACTACGTGGACCGCTTCTCAAGACCCCTGCGGCCGAG
CAGAGCACCCAGGAGGTGAAGAAGTGGATGACCGACACCCCTGCTGGTGCAGAACGCCAAC
CCGACTGCAAGACCATCTGCCGCTCTGGCCCCGGGCCAGCCTGGAGGAGATGATGAC
CGCCTGCCAGGGCGTGGCGGCCAGCCACAAGGCCCGCGTGCCTGGCCAGGCCGATGAGC
CAGGCCAACACCAGCGTATGATGCAGAACAGCAACTCAAGGGCCCCGGCGCATCGTCA
AGTGCTTCAACTCGGCAAGGAGGGCACATGCCGCAACTGCCGCCGGGCAAGAA
GGGCTGCTGGAAGTGGCAAGGAGGGCACCGAGATGAAGGACTGCACCGAGGCCAGGCC
AACTTCCCTGGCAAGATCTGGCCAGCCACAAGGCCCGCCGGCAACTTCCCTGCAGAGCC
GCCCGAGCCCACCGCCCCCGCCAGAGAGCTTCCGCTTCGAGGAGACCACCCCGGCCA
GAAGCAGGAGAGCAAGGACCGCGAGACCTGACCAGCCTGAAGAGCCTGTTGGCAACGAC
CCCCCTGAGCCAGTAA

FIG. 1

APPROVED	O.G. FIG.	
	CLASS	SUBCLASS
BY		
DRAFTSMAN		

Gag_AF110967_BW_mod

ATGGGCGCCCGGCCAGCATCTGCGCGCGAGAAGCTGGACAAGTGGGAGAAGATCCGCC
TGCAGCCCCGGCGCAAGAACGACTACATGCTGAAGCACCTGGTGTGGGCCAGCCGCGAGCT
GGAGGGCTTCGCCCTGAACCCCGCTGCTGGAGACCGCCGAGGGCTGCAAGCAGATCATG
AAGCAGCTGCAGCCGCCCTGCAGACCGCACCAGGAGCTGCGCAGCCTGTACAACACCG
TGGCCACCCCTGACTCGTGCACGCCGGCATCGAGGTCCGCGACACCAAGGAGGCCCTGGA
CAAGATCGAGGAGGAGCAGAACAAAGTCCAGCAGAACGACCCAGCAGGCCAAGGAGGCCGAC
GGCAAGGTGAGCCAGAACTACCCCATCGTCAGAACCTGCAGGGCCAGATGGTGCACCAGG
CCATCAGCCCCCGCACCTGAACGCCTGGTGAAGGTGATCGAGGAGAACGCCCTCAGCCC
CGAGGTGATCCCCATGTTCACCGCCCTGAGCGAGGGCGCCACCCCCCAGGACCTGAACACG
ATGTTGAACACCGTGGCGGCCACCAGGCCATGCAGATGCTGAAGGACACCATCAACG
AGGAGGCCCGAGTGGGACCGCCTGCACCCCGTGCAGGCCGGCCGGTGGCCCGGCCA
GATGCGCAGCCCCCGCGGCAGCGACATGCCCGGCCACCAGCACCCCTGCAGGAGCAGATC
GCCTGGATGACCAGCAACCCCCCGTGCCTGGGCGACATCTACAAGCGGTGGATCATCC
TGGGCTGAACAAAGATCGTGCGGATGTACAGCCCCGTGAGCATTGACATCCGCCAGGG
CCCCAAGGAGCCCTCCGCACTACGTGGACCGCTTCAAGACCCCTGCGCGCCGAGCAG
GCCACCCAGGACGTGAAGAACTGGATGACCGAGACCCCTGCTGGTGCAGAACGCCAACCCCG
ACTGCAAGACCATCCTGCGCCTCTGGCCCCGGCGCACCCCTGGAGGGAGATGATGACCGC
CTGCCAGGGCGTGGCGGCCAACAGGCCGCGTGTGGCGAGGCAGTGGCCAG
GCCAACAGCGTGAACATCATGATGCAAGAGAGCAACTTCAAGGGCCCCGGCGAACGTCA
AGTGCTTCAACTGCGGCAAGGAGGGCACATGCCAAGAACACTGCCGCCGGCGCAAGAA
GGGCTGCTGGAAGTGGCAAGGAGGGCACCGAGATGAAGGACTGCACCGAGCGCCAGGCC
AACTTCCCTGGCAAGATCTGGCCAGCCACAAGGCCGGCAACTTCCCTGCAAGAAC
GCAGCGAGCCCGCCGCCCCCACCGTGCCACCGCCCCCGCGAGAGCTCCGCTTCGA
GGAGACCACCCCCGCCCAAGCAGGAGCCAAAGGACCGCAGGCCCTACCGCGAGGCCCTG
ACCGCCCTGCGCAGCCGTTGGCAGCGGCCGGCTGAGCCAGTAA

FIG. 2

Env_AF110968_C_BW_opt

APPROVED	O.G. FIG.	CLASS	SUBCLASS
BY DRAFTSMAN			

--> **signal peptide (1-81)**
ATGCGCGTGTATGGGCATCCTGAAGAACTACCAGCAGTGGTGGATGTGGGGCATCCTGGGCTCTGGATGCTGATCA
V--> **gp120/140/160 (82)**
TCAGCAGCGTGGTGGGCAACCTGTGGGTGACCGTGTACTACGGCGTCCCCGTGGAAGGAGGCCAAGACCACCT
GTTCTGCACCAGCGACGCCAACGGCTACGAGACCGAGGTGCACAACTGTGTCGGGCCACCCACGCCCTGCGTGCCACC
GACCCCAACCCCCAGGAGATCGTGTGGAGAACGTGACCGAGAACCTCAACATGTGGAAGAACGACATGGTGGACC
AGATGCACGGAGGACATCATCAGCCTGTGGGACCAAGGCCCTGAAGGCCCTGCGTGAAGCTGACCCCCCTGTGCGTGAC
CCTGAAGTGCCGAAACGTGAACGCCACCAACAACATCAACAGCATGATCGACAACAGCAACAAGGGCAGATGAAG
AACTGCAGCTTCAACGTGACCACCGAGCTGCGCGACCGCAAGCAGGAGGTGCACGCCCTGTTCTACCGCTGGACG
TGGTGCCCTGCAGGGCAACAACAGCAACAGAGTACCGCCTGATCAACTGCAACACCAGGCCATACCCAGGCCCTG
CCCCAAGGTGAGCTCGACCCCATCCCCATCCACTACTGCACCCCCGCCGGTACGCCATCCTGAAGTGCACAAAC
CAGACCTTCAACGGCACCGGCCCTGCAACAACAGTGAGCAGCGTGCAGTGCGCCACGCCATCAAGCCGTGGTGA
GCACCCAGCTGCTGCTGAACGGCAGCCTGGCAAGGGCAGATCATCATCCGAGCGAGAACCTGCCAACACGC
CAAGATCATCATCGTGCAGCTGAACAAGCCGTGAAGATCGTGTGCGTGCGCCCAACAACACCCGAAGAGC
GTGCGCATCGGCCCCGGCAGACCTTCAACGCCACCGCAGGGCGTGAAGAAGCTGGAGGAGCAGTCAGCAAGAACGCAT
TCAACAAGACCGAGTGGAACAGCACCTGCAGGGCGTGAAGAAGCTGGAGGAGCAGTCAGCAAGAACGCAT
CAAGTTGAGCCCAGCAGCGGCCGACCTGGAGATCACCAACCCACAGCTTCAACTGCCCGGGCAGTTCTTCTAC
TGCGACACCAGCCAGCTGTTCAACAGCACCTACAGCCCCAGCTTCAACGGCACCGAGAACAGCTGAACGGCACCA
TCACCATCACCTGCCCATCAAGCAGATCATCAACATGTGGCAGAAGGTGGCCGCGCATGTACGCCCTCCAT
CGCCGGCAACCTGACCTGCGAGAGCAACATCACCGCCTGCTGCTGACCCCGCACGGCGCAAGACCGGCCAAC
GACACCGAGATCTCCGCCCCGGCGGCCGACATGCGCAGCAACTGGCGCAACGAGCTGTACAAGTACAAGTGG
TGGAGATCAAGCCCTGGCGTGGCCCCACCGAGGCCAAGCGCCGCGTGGAGCGAGAACGCGCCGCTGGTGG
CATCGGCCGTGTTCTGGCTTCTGGCGCCGCCAGCACCATGGCGCCGCCAGCATCACCTGACCGTG
CAGGCCCTGCTGCTGAGCGGCATCGCAGCAGCAACACTGCTGCGGCCATCGAGGCCAGCAGCACC
TGCTGCAGCTGACCGTGTGGGCATCAAGCAGCTGCGAGACCCGACATCTGGCGTGGAGCGCTACCTGAAGGACCA
GCAGCTGCTGGCATTGGGCTGAGCGCAAGCTGATCTGACCCACCGCGTGCCTGGAACAGCAGCTGGAGC
AACCGCAGCCACGACGAGATCTGGACAACATGACCTGGATGCGAGTGGGACCGCGAGATCAACAACACCCGACA
CCATCTACCGCCTGCTGGAGGAGGCCAGAACCGAGCAGGAGAACGAGGACCTGCTGGCCCTGGACAGCTG
gp140 (2025) <--\/
GCAGAACCTGTGGAACTGGTTCAGCATACCAACTGGCTGTGGTACATCAAGATCTTCATCATGATCGTGGCGGC
CTGATCGCCCTGCGCATCATCTCGCCGTGCTGAGCATCGTAACCGCGTGCGCCAGGCCAGCTACAGCCCCCTGCCCT
TCCAGACCCCTGACCCCCAACCCCGCGAGCCGACCCGCTGGCCGATCGAGGAGGAGGGCGGCAGCAGGACCG
CGGCCGAGCATCCGCTGGTGAAGCGCTCCCTGGCCCTGGCCTGGGACCGACCTGCGCAGCCTGCGCTTCTAGC
TACCAACCGCCTGCGCGACTTCATCCTGATCGCCGCCCGTGCTGGAGCTGCTGGCCAGCGCGGCTGGAGGCC
TGAAGTACCTGGCAGCCTGGTGCAGTACTGGGCCTGGAGCTGAAGAACGAGGCCATCAGCCTGCTGGACACCAT
CGCCATCGCCGTGGCGAGGGCACCGACCGCATATCGAGTTCATCCAGCGCATCGCCGCCATCCGCAACATC
CCCCGCCATCCGCCAGGGCTCGAGGCCCTGAGTAA
gp160, gp41 (2547) <--\

Env_AF110975_C_BW_opt

--> signal peptide (1-72)
ATGCGCGTGC CGCGCATCCTGC CGCAGCTGGCAGCAGTGGTGGATCTGGGCATCCTGGCTTCTGGATCTGCAGCG
gp120/140/160 (72)
GCCTGGCAACCTGTGGGTGACCGTGTACGACGGCGTGCCGTGCGCGAGGCCAGCACCAACCTGTTCTGC
CAGCGACGCCAAGGCCCTACGAGAAGGAGGTGCACAACTGTGGCCACCCACGCCCTGCCTGCCGCCACCGACCC
CCCCAGGAGATCGAGCTGGACAACGTGACCGAGAACTTCAACATGTGGAAGAACGACATGGTGGACCAGATGC
AGGACATCATCAGCCTGTGGGACCAAGGCCCTGAAGGCCCGCGTGAAGCTGACCCCCCTGTGCGTGACCC
CACCAACTACAGCACCAACTACAGCAACACCATGAACGCCACCAAGCTACAACAACAACCACCGAGGAGATCA
AACTGCACCTTCAACATGACCACCGAGCTGCGGACAAGAACGAGCAGCAGGTGTACGCCCTGTTCTACAAG
TCGTGCCCTGAACAGCAACAGCAGCGAGTACCGCCTGATCAACTGCAACACCAGCGCCATCACCCAGGCC
CAAGGTGAGCTTCGACCCCCTCCACTACTGCGCCCCCGCCGGTACGCCATCCTGAAGTGCAAGAAC
ACCAGCAACGGCACCGGCCCTGCCAGAACGAGCTGAGCAGCGTGCAGTGCACCCACGGCATCAAG
CCCCCCTGCTGCTGAACGGCAGCCTGGCCAGGGCGGAGATCATCATCCGAGCAAGAAC
CTACACCATCATCGTGCACCTGAACGACAGCGTGGAGATCGTGTGACCCGCCAAC
ATCCGCATCGGCCCCGGCCAGACCTTCTACGCCACCGAGAACATCATCG
TCAGCGCCGGCGAGTGGAAACAAGGCCGTGCAGCGCGTGCAGCGCAAGCTGCG
CGAGTCCAGCCCAGCAGCGCGCGACCTGGAGATCACCACCCAGCT
TGCAACACCAGCAAGCTGTTCAACAGCAGCTACAACGGCACCAG
TCACCCCTGCCCTGCCGCATCAAGCAGATCATCGACATGTGG
CGAGGGCAACATCACCTGCAGCAGCAGCATCACCGCCTG
ACCGAGATCTTCCGCCCCCAGGGCGGCACATGAAGGACA
gp120 (1509) <--\--> (1510) gp41
AGATCAAGCCCCTGGCGTGGCCCCACCGAGG
CGGCCGTGATCTCGGCTCCTGGGCCGCCGGCAG
GCCCGCCAGCTGCTGAGCGGCATCG
TGCAAGCTGAGCTGGGAGATCTGG
AAGACCCAGGGCAG
TCTACCGCCTGCTGGAGGAGGCCAGAAC
gp140 (2022) <--\-->
CAACCTGTGGAGCTGGTCAACATCAGCAACTGG
ATCGGCGCATCTTGC
AGACCCCTGACCCCC
CCGCAGC
CACCGCCTGCG
AGCGGGCTGGAGGCC
CAGCCTGCTGG
gp160, gp41 (2565) <--\-->
CGCGCCTCTGCAACATCCCCGCC
CAGGGCTTCTGCAGTAA

O.G. FIG.	CLASS	SUBCLASS
APPROVED	BY	TRAFTSMAN

Gag_AF110965_BW_opt

ATGGGCGCCCGGCCAGCATCCTGCGCGGCCAGCTGGACGCCCTGGAGCGCATCCGCCTGCGCCCCGG
CGGCAAGAAGTGTACATGATGAAGCACCTGGTGTGGGCCAGCGCGAGCTGGAGAAGTTCGCCCTGAACC
CCGGCCTGCTGGAGACCAGCGAGGGCTGCAAGCAGATCATCCGCCAGCTGCACCCGCCCTGCAGACCGGC
AGCGAGGAGCTGAAGAGCCTGTTAACACCGTGGCCACCCCTGTACTGCGTGCACGAGAAGATCGAGGT[GCG
CGACACCAAGGAGGCCCTGGACAAGATCGAGGAGGAGCAGAACAGAGCCAGCAGAAGATCCAGCAGGCCG
AGGCCGCCACAAGGGCAAGGTGAGCCAGAACTACCCCATCGTCAGAACCTGCAGGGCAGATGGTGCAC
CAGGCCATCAGCCCCCGCACCTGAACGCCCTGGTGAAGGTGATCGAGGAGAAGGCCCTCAGCCCCGAGGT
GATCCCCATGTTACCGCCCTGAGCGAGGGGCCACCCCGAGGACCTGAACACCATGCTGAACACCGTGG
GCAGGCCACCAGGCCATGCAGATGCTGAAGGACACCATCAACGAGGAGGCCCGAGTGGGACCGCGTG
CACCCCGTGACGCCGGCCCCATGCCCGGCCAGATGCGCGAGCCCCGCCAGCAGCACATGCCGGCAC
CACCAAGCACCTGCAGGAGCAGATGCCCTGGATGACCAGCAACCCCCCATCCCGTGGCGACATCTACA
AGCG[G]GGATCATCCTGGCCTGAACAAGATCGCG[G]ATGTACAGCCCCGTGAGCATTGGACATCAAG
CAGGGCCCCAAGGAGCCCTCCGCACTACGTGGACCGCTTCAAGACCTGCGCGAGCAGAGCAC
CCAGGAGGTGAAGAACTGGATGACCGACACCTGCTGGTGCAGAACGCCAACCCGACTGCAAGACCATCC
TGCGCG[CCTGG]GGCCCCGGGCCAGCCTGGAGGAGATGATGACCGCCTGCCAGGGCGTGGCGGGCCCCAGC
CACAGGGCCCCGCGTGCTGGCCAGGC[G]ATGAGCCAGGCCAACACCAGCGTATGAGCAGAAGAGCAACTT
CAAGGGCCCCGCG[C]GCATCGT[G]AAGTGTTCACACTGGCAAGGAGGGCACATGCCCGCAACTGCCGCG
CCCCCGCAAGAAGGGCTGGAAGTGCAGCAAGGAGGGCCACAGATGAAGGACTGCACCGAGGCCAG
GCCAACTTCCTGGCAAGATCTGGCCAGCCACAAGGGCCCGGGCAACTTCCTGCAGAGCCGGGGGA
GCCCAACCGCCCCCCCCCGCCAGAGCTTCGCTTCGAGGAGACCACCCCGGCCAGAAGCAGGAGAGCAAGG
ACCGCGAGACCTGACCGCCTGAAGAGCCTGTTGGCAACGACCCCTGAGCCAGTAA

FIG. 5

6/6

Gag_AF110967_BW_opt

ATGGGGCCCGCGGCCAGCATCCTGCGCGGAGAAAGCTGGACAAGTGGAGAAGATCCGCCTGCGCCCCGG
CGGCAAGAAGCACTACATGCTGAAGCACCTGGTGTGGGCCAGCCGAGCTGGAGGGCTTCGCCCTGAACC
CCGGCCTGCTGGAGACCGCCGAGGGCTGCAAGCAGATCATGAAGCAGCTGCAGCCGCCCTGCAGACCGGC
ACCGAGGAGCTGCGCAGCCTGTACAACACCGTGGCCACCTGTACTGCGTGCACGCCGCATCGAGGT[GCG
C]
CGACACCAAGGAGGCCCTGGACAAGATCGAGGAGGAGCAGAACAAAG[GAGCCAGCAGAACCCAGCAGGCCA
TC]
AGGAGGCCGACGGCAAGGTGAGCCAGAACTACCCATCGTCAGAACCTGCAGGGCCAGATGGTGCACCAAG
GCCATCAGCCCCCGCACCTGAACGCCTGGTGAAGGTGATCGAGGAGAAGGCCCTCAGCCCCGAGGTGAT
CCCCATGTTACCGCCCTGAGCGAGGGGCCACCCCCCAGGACCTGAACAC[CATGCTGAACACCGTGGCG
G T]
GCCACCAGGCCCATGCAGATGCTGAAGGACACCATAACGAGGAGGCCAGTGGGACCGCCTGCAC
CCCGTGCAGGCCGGCCCGTGGCCCCGGCCAGATGCGCACCCCCGGCAGCGACATGCCGGGCCAC
CAGCACCCCTGCAGGAGCAGATGCCTGGATGACCAGCAACCCCCCGTGCCGTGGCGACATCTACAAGC
G[G]TGGATCATCCTGGCCTGAACAAGATCGCGC[G]ATGTACAGCCCCGTGAGCATTGGACATCCGCCAG
G
GGCCCCAAGGAGCCCTCCGCACTACGTGGACCGCTTCAAGACCCCTGCGGCCAGCAGGCCACCCA
GGACGTGAAGAACTGGATGACCGAGACCCCTGCTGGTGCAGAACGCCAACCCCCACTGCAAGACCACTCCTGC
GCG[G]CTGGCCCCGGGCCACCTGGAGGAGATGATGACCGCCTGCCAGGGGTGGCGGCCAC
T C
AAGGCCCGGTGCTGGCGAGGCC[G]ATGAGCCAGGCCAACAGCGTGAACATCATGATGCAAGAGCAACTT
G
CAAGGGCCCCCG[G]CGCAACGT[G]AAAGTCTTCAACTGCGCAAGGAGGGCCACATGCCAACGAACTGCCGCG
G
CCCCCGCAAGAAGGGCTGTTGGAAAGTGCAGGCCAGGAGGGCCACCAAGATGAAGGACTGCACCGAGGCCAG
GCCAACCTCCTGGCAAGATCTGGCCAGCCACAAGGGCCGGCAACTCCTGCAGAACCGCAGCGA
GCCCGCCGCCACCGTGCCACCGCCCCCGCCAGAGCTCCGCTTCGAGGAGACCACCCCCGCC
CCAAGCAGGAGCCCAAGGACCGCAGCCCTACCGCAGGCCCTGACCGCCCTGCGCAGCCTGTTGGCAGC
GGCCCCCTGAGCCAGTAA

FIG. 6

